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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,642	09/19/2003	Shunpei Yamazaki	0553-0378	5083

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EXAMINER	
MOORE, KARLA A	

ART UNIT	PAPER NUMBER
1763	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,642	YAMAZAKI et al.	
	Examiner	Art Unit	
	Karla Moore	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 19-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-6,19-24 and 29* is/are allowed.

6)☒ Claim(s) *7-10,25-28 and 30-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1205,0106*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 7-10, 25-28 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,696,096 to Tsukabi et al. in view of U.S. Patent Publication No. 2003/0015140 A1 to Van Slyke et al., U.S. Patent No. 6,294,892 to Utsugi et al., U.S. Patent No. 4,897,290 to Terasaka et al. and U.S. Patent No. 6,830,626 to Smith.

4. Tsubaki et al. discloses the invention substantially as claimed and comprising: a fabrication system comprising: a film formation chamber (Figure 8, 1); an installation chamber (11) connected with the film formation chamber; an evaporation source holder (24); a moving mechanism for moving the evaporation source holder (60 and 61); wherein said film formation

chamber is connected with a vacuum exhaust treatment chamber (20) for allowing the inside of the film formation chamber to be in a vacuum state; wherein said evaporation source holder has containers (grooves in 24 containing evaporation material), said containers being arranged in a longitudinal direction of said evaporation source holder, in each container an evaporation material is contained, and a heater for heating said containers (Figure 12, 65-67; column 15, rows 57-64).

5. However, Tsubaki et al. fail to teach the system comprising a load chamber, a transport chamber and a plurality of film formation chambers.

6. Van Slyke et al. disclose a cluster tool comprising a load chamber (Figure 2, 110), a transport chamber (102) and a plurality of film formation chambers (130, 140, 150 and 160) for manufacturing light-emitting devices for the purpose of manufacturing a relatively large number of devices using automated or robotic means for transporting or transferring substrates or structures among a plurality of stations (paragraphs 57 and 58).

7. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a cluster tool comprising load chamber, a transport chamber and a plurality of film formation chambers for manufacturing light-emitting devices in Tsubaki et al. in order to manufacture a relatively large number of devices using automated or robotic means for transporting or transferring substrates or structures among a plurality of stations as taught by Van Slyke et al.

8. Tsubaki et al. further fail to teach a moving mechanism for moving an evaporation source during evaporation.

9. Van Slyke et al. teach that relative motion between a source and substrate during deposition ensures that a relatively uniform layer is deposited (abstract).

10. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided moving mechanism for providing relative motion between the evaporation source and the substrate in Tsubaki et al. in order to ensure deposition of a relatively uniform layer as taught by Van Slyke et al.

11. Tsubaki et al. and Van Slyke et al. disclose the invention substantially as claimed and as described above.

12. However, Tsubaki et al. and Van Slyke et al. fail to teach said film formation chamber comprising an aligner for allowing positions of a mask and a substrate to be in registry with each other.

13. Utsugi et al. teach the use of an aligner for allowing positions of a mask and a substrate to be in registry with each other for the purpose of developing a manufacturing method having sufficient accuracy in order to finely separate a luminescent layer formed by excessively thin organic vaporized film into a sub-pixel of high accuracy of several tens μm (column 2, rows 22-27 and column 5, rows 30-34). The aligner means comprises a stopper/magnet (for stopping misalignment)(column 3, rows 36-41 and column 6, rows 3-6), and a CCD camera for monitoring alignment (column 5, row 34).

14. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided an aligner in Tsubaki et al. in order to allow for positioning of a mask and a substrate to be in registry with each other and in order to develop a manufacturing method having sufficient accuracy in order to finely separate a luminescent layer formed by excessively thin organic vaporized film into a sub-pixel of high accuracy of several tens μm as taught by Utsugi et al.

15. Tsubaki et al, Van Slyke et al. and Utsugi et al. disclose the invention substantially as claimed and as described above.

16. However, Tsubaki et al, Van Slyke et al. and Utsugi et al. fail to teach each of said containers I set obliquely to a surface of a substrate and said moving means moves said evaporation holder with a longitudinal direction thereof being set obliquely to a side of the substrate in an X direction or a Y direction of the substrate (or wherein each of said containers is tilted to a surface of the substrate).

17. Terasaka et al. teach setting a longitudinal direction of a an evaporation source at an oblique angle to a side of a substrate in an x-direction or a y-direction of a substrate (⊥, phi, Figures 11 and 16a; abstract and column 3, rows 43-49) for the purpose forming a layer having uniform alignment angles at high precision in the direction in which the uniform evaporation depositing on the substrate surface will be required.

18. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a side of a substrate set at an oblique angle with respect to an evaporation source (or wherein each of said containers is tilted to a surface of the substrate) in

Tsubaki et al, Van Slyke et al. and Utsugi et al. in order to form a layer having uniform alignment angles at high precision in the direction in which the uniform evaporation depositing on the substrate surface will be required as taught by Terasaka et al.

19. Tsubaki et al., Van Slyke et al., Utsugi et al. and Terasaka et al. disclose the invention substantially as claimed and as described above.

20. However, Tsubaki et al., Van Slyke et al., Utsugi et al. and Terasaka et al. fail to teach the containers set obliquely (tilted) with respect to a surface of the substrate.

21. Smith teaches tilting a plurality of evaporation containers filled with respective evaporation materials for the purpose of mixing the evaporation materials in a mixing zone prior to deposition so that they are more evenly distributed onto the substrate (Figure 8, column 6, rows 52-62). Further, as illustrated in Figure 8, an embodiment is disclosed where the containers of the evaporation source holder include at least some containers set obliquely to the surface of the substrate at angles different than other containers.

22. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided tilted evaporation containers in Tsubaki et al., Van Slyke et al., Utsugi et al. and Terasaka et al. in order to mix evaporation materials in a mixing zone prior to deposition so that they are more evenly distributed onto the substrate as taught by Smith.

23. With respect to claims 8, 10, 26 and 28 the evaporation source holder (see Figure 10 of Tsubaki et al.) is rectangular.

24. With respect to claims 30 and 31, the aligner comprises a CCD camera for monitoring alignment (column 5, row 34).

25. The limitations of new claims 32 and 33 are addressed above.

Allowable Subject Matter

26. Claims 1-6, 19-24 and 29 are allowed.

27. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach or fairly suggest a fabrication system comprising an installation chamber for housing evaporation containers which are to be transported to a film formation chamber of the fabrication system as described above, the installation chamber further comprising a heater for heating the containers. Nor was any other piece of properly combinable art located that taught this feature and provided the requisite motivation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

28. Applicant's arguments with respect to claims 7-10, 25-28 and 30-33 have been considered but are moot in view of the new ground(s) of rejection. Smith teaches evaporation source holders being tilted and some of the sources being tilted at different angles than others. Van Slyke teaches relative motion between a substrate and source.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karla Moore
Patent Examiner
Art Unit 1763
20 March 2006